

1 ABSTRACT OF THE DISCLOSURE

A thin film diamond coating is formed relatively slowly with a relatively low methane concentration and is identified by its Raman spectrographic characteristics. The thin film diamond, preferably 5 to 40 microns thick, provides substantially greater corrosion and erosion resistance in a corrosive environment than other thin film diamond coatings. It is believed that such thin film diamond coating is provided with enhanced chemical resistance due to its purity and quality.